

1. A mobile station for communicating with a base station, comprising;
    - an oscillator;
    - a radio frequency demodulator for demodulating a radio frequency band signal received from said base station by use of a first signal from said oscillator;
    - a radio frequency modulator for modulating a second signal to be transmitted by use of the first signal from said oscillator; and
    - an antenna for receiving said radio frequency band signal transmitted from said base station, and for transmitting said modulated second signal to said base station,
      - wherein an oscillation frequency of the oscillator is controlled by use of a change of phase shift detected using the demodulated radio frequency band signal received from the base station.
2. A mobile station according to claim 1, wherein the change of phase shift is detected using a pilot signal received from said base station.
3. A mobile station according to claim 2, wherein said pilot signal is extracted by despreading the demodulated radio frequency band signal using a spread spectrum code assigned to the pilot signal.
4. A method of transmitting a first signal from a mobile station to a base station, comprising the steps of:
  - demodulating a radio frequency band signal received from said base

station by use of a second signal from an oscillator;

modulating the first signal to be transmitted by use of the second signal from the oscillator; and

transmitting said modulated first signal,

wherein an oscillation frequency of the oscillator is controlled by use of a change of phase shift detected using the demodulated radio frequency band signal received from the base station.

5. A method of transmitting a first signal from a mobile station according to claim 4, wherein said change of phase shift is detected using a pilot signal received from said base station.

6. A method of transmitting a first signal from a mobile station according to claim 5, further comprising the step of:

despreadening the demodulated radio frequency band signal to extract said pilot signal.

7. A mobile station which receives signals from a base station, comprising:

an antenna for receiving said signals from said base station;

an oscillator;

a demodulator for demodulating said received signals using a signal from said oscillator,

wherein an oscillation frequency of said oscillator is controlled by use of a change of phase shift detected using the demodulated signal received

from the base station.

8. A mobile station according to claim 7, wherein said received signals include a pilot signal, and said change of phase shift is detected using said pilot signal.

9. A mobile station according to claim 8, further comprising:  
a despreader for despreadening the demodulated signal to extract said pilot signal.

10. A mobile station for communicating with a base station,  
comprising:  
an antenna for receiving signals transmitted from said base station  
based on phase shift keying, and for transmitting signals to said base station;  
an oscillator;  
a demodulator for demodulating the received signals using a signal  
from said oscillator;  
a frequency correction circuit for controlling an oscillation frequency of  
the oscillator to correct frequency error based on a detected phase of the  
demodulated signal; and  
a phase correction circuit for correcting a phase of at least a part of the  
demodulated signals based on said detected phase of the demodulated  
signal.

11. A mobile station according to claim 10, wherein said phase

correction circuit performs phase correction on a symbol basis.

12. A mobile station according to claim 10, said detected phase is a phase detected using a pilot signal received from said base station.